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(71) Applicant and

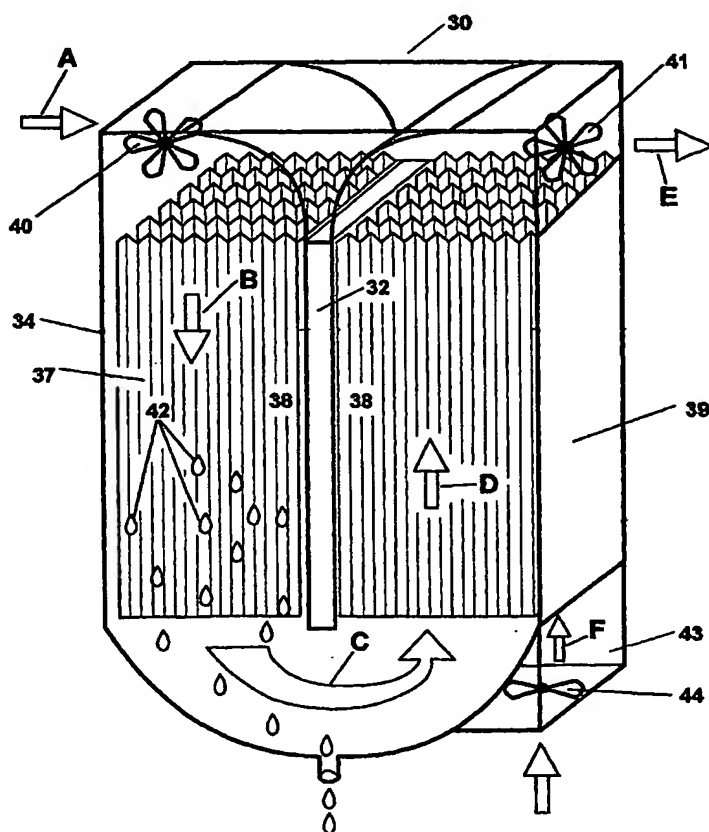
(72) Inventor: REIDY, James, J. [US/US]; 1260 Main Street, Holden, MA 01520-1020 (US).

(74) Agent: DINGMAN, Brian, M.; Mirick, O'Connell, De-Mallie & Lougee, LLP, 1700 West Park Drive, Westborough, MA 01581-3941 (US).

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[Continued on next page]

(54) Title: THERMOELECTRIC, HIGH-EFFICIENCY, WATER GENERATING DEVICE



(57) Abstract: A water generating device (30) utilizing thermoelectric (32) cooling, also known as Peltier technology, for obtaining potable water from ambient air inside or outside a structure or dwelling, having a unique continuous duct (34) for bringing this supply of ambient air to the device and for releasing the air back outside the device after it has been processed. This device includes a cold sink (36) with which the incoming air is cooled below the dew point to condense the existing water vapor. The cooled air is then redirected over the heat sink (38) which increases the efficiency and cooling capability of the device over that of using only the warmer ambient air to cool the heat sink. The rate of air flow is controlled by a device that determines the current ambient dew point by measuring the temperature and relative humidity, and the temperature of the cold sink. The incoming air flow is increased or decreased by the fan or blower (44), to the maximum possible flow rate without excessively exceeding the determined dew point temperature of the incoming air being processed.



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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C02F 1/00; B01D 21/30; F25D 21/14; F25B 21/02

US CL : 210/744, 137; 62/285, 291, 3.2, 3.4

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 210/744, 137; 62/285, 291, 3.2, 3.4

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,481,232 B2 (FAQIH) 19 November 2002 (19.11.2002), See the entire document	1-29
X,P	US 6,574,979 B2 (FAQIH) 10 June 2003 (10.06.2003), See the entire document	1-29
X,P	US 6,705,104 B2 (TANI et al) 16 March 2004 (16.03.2004), See the entire document	1-28
Y	US 6,182,453 B1 (FORSBERG) 06 February 2001 (6.02.2001), See the entire document	1-29
Y	US 5,517,829 A (MICHAEL) 21 May 1996 (21.05.1996), See FIG. 1-2	1-28
Y	US 5,729,981 A (MARKUS et al) 24 March 1998 (24.03.1998), See FIG. 1	1-28
Y	US 6,505,477 B1 (SMITH et al) 14 January 2003 (14.01.2003), See FIG. 1	1-28

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

For Denise Esquivel

Telephone No. (703) 308-0861

Sheila H. Verney
Paralegal Specialist
Tech. Center 3700